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| APPLICATION NO.      | FILING DATE                   | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------|-------------------------------|----------------------|---------------------|------------------|
| 10/591,176           | 08/30/2006                    | Atsushi Sano         | 129277              | 7454             |
| 25944<br>OLIFF & BER | 7590 01/18/2011<br>PRIDGE PLC | EXAMINER             |                     |                  |
| P.O. BOX 320         | 850                           | BEST, ZACHARY P      |                     |                  |
| ALEXANDRI            | A, VA 22320-4850              |                      | ART UNIT            | PAPER NUMBER     |
|                      |                               |                      | 1727                |                  |
|                      |                               |                      |                     |                  |
|                      |                               |                      | NOTIFICATION DATE   | DELIVERY MODE    |
|                      |                               |                      | 01/18/2011          | ELECTRONIC       |

## Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction25944@oliff.com jarmstrong@oliff.com

#### 10/591.176 SANO ET AL. Office Action Summary Examiner Art Unit

Application No.

Applicant(s)

| Zachary Best 1727                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| The MAILING DATE of this communication appears on the cover sheet with the correspondence address<br>Period for Reply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CPT 1.139(a). In no event, however, may a reply be timely filled.  - If NO period for reply is apposited above, the maximum statutory period will apply and will replie SIX (8) MONTHS from the mailing date of this communication.  - Failure for reply within the act or extended period for reply will, by stating cause the application to become ARMONDED (38 U.S.C. § 133).  Any reply received by the Office later than three morths after the mailing date of this communication, even if timely filed, may reduce any seared patter them adjustment. See 8 27 CPT 1.740(b). |  |
| Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 1) ■ Responsive to communication(s) filed on <u>04 January 2010</u> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| 2a) ☐ This action is <b>FINAL</b> . 2b) ☑ This action is non-final.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Disposition of Claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| 4) ☐ Claim(s) 7.8.15 and 17 is/are pending in the application.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 4a) Of the above claim(s) is/are withdrawn from consideration.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 5) Claim(s) is/are allowed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| 6)⊠ Claim(s) <u>7.8.15 and 17</u> is/are rejected. 7)□ Claim(s) is/are objected to.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 8) Claim(s) are subject to restriction and/or election requirement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| Application Papers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 9)⊠ The specification is objected to by the Examiner.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| 10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Priority under 35 U.S.C. § 119                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Certified copies of the priority documents have been received.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 2. Certified copies of the priority documents have been received in Application No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <ol> <li>Copies of the certified copies of the priority documents have been received in this National Stage<br/>application from the International Bureau (PCT Rule 17.2(a)).</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| * See the attached detailed Office action for a list of the certified copies not received.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Attachment(s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| ) Notice of References Cited (PTO-892)  4) Interview Summary (PTO-413)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |

| 1) | M | Notice |
|----|---|--------|
|----|---|--------|

| Attachment(s)                                               |                                                         |  |
|-------------------------------------------------------------|---------------------------------------------------------|--|
| Notice of References Cited (PTO-892)                        | 4) Interview Summary (PTO-413)                          |  |
| 2) Notice of Eraftsperson's Patent Drawing Seview (PTC-942) | Parer No(s)/Mail Date                                   |  |
| Information Disclosure Statement(s) (PTO/SB/08)             | <ol><li>Notice of Informal Patent Application</li></ol> |  |
| Paper No(s)/Mail Date                                       | 6) Other: .                                             |  |

### DIRECT ALCOHOL FUEL CELL AND METHOD FOR PRODUCING SAME

Examiner: Z. Best S.N. 10/591.176 Art Unit: 1795

#### Continued Examination Under 37 CFR 1.114

- A request for continued examination under 37 CFR 1.114, including the fee set forth
  in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is
  eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR
  1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn
  pursuant to 37 CFR 1.114. Applicant's submission filed on January 4, 2010 has been
  entered. Claims 7-8, 15, and 17 are currently pending examination.
- The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Examiner suggests mention of either the silver containing cathode catalyst layer or anion exchange resin containing cathode catalyst layer.

 Claims 7-8, 15, and 17 are rejected under 35 U.S.C. 102(b) as anticipated by Sterzel (US 4,828,941).

Regarding Claim 7, Sterzel teaches a direct alcohol fuel cell (abstract) comprising an anode having an anode catalyst layer (2), a cathode having a cathode catalyst layer (3), and a solid polymer electrolyte membrane arranged between the anode and cathode (1), the direct alcohol fuel cell generating electricity by supplying the anode with alcohol and water (col. 8, lines 5-19); wherein the solid polymer electrolyte membrane is an anion exchange membrane (col. 2, lines 52-55); wherein the cathode catalyst layer contains silver as a catalyst (col. 48-50); and wherein the cathode catalyst layer contains an anion exchange resin as a binder (see col. 5, lines 46-50, see generally col. 5, lines 1-50).

Regarding Claim 8, Sterzel teaches the catalyst includes a carrier catalyst having a carbon material carrying the silver (col. 3, lines 32-50).

Regarding Claim 15, Sterzel teaches the anion exchange membrane is constituted by a polymer compound having a cation group within a molecule (col. 5, lines 28-42).

Regarding Claim 17, Sterzel teaches the alcohol is methanol (abstract).

## Claim Rejections - 35 USC § 103

5. The claim rejections under 35 U.S.C. 103(a) of Claims 7 and 17 as being unpatentable over Scott et al. and Uchida et al., Claim 8 as being unpatentable over Scott et al., Uchida et al., and Mao et al., and Claim 15 as being unpatentable over Scott et al., Uchida et al., Mao et al.

al., and Fleischer et al. are withdrawn because Applicant's argument and submitted evidence were persuasive.

## Response to Arguments

 Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

#### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary Best whose telephone number is (571) 270-3963. The examiner can normally be reached on Monday to Thursday, 7:30 - 5:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <a href="http://pair-direct.uspto.gov">http://pair-direct.uspto.gov</a>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Zachary Best/ Examiner, Art Unit 1727

/Dah-Wei D. Yuan/ Supervisory Patent Examiner, Art Unit 1727